AMENDMENTS TO THE CLAIMS:

This listing of the claims will replace all prior versions, and listings, of the claims in this application:

Please cancel claims 5, 10, 12, 14, and 17 without prejudice.

Listing of Claims:

1. (Currently Amended) A storage system that stores block groups including a plurality of object blocks in a plurality of storage devices, one of said object blocks being a redundancy block comprising redundancy data used if one of the plurality of object blocks is defective, the storage system comprising:

    a plurality of storage devices;

    a block writer that stores in different ones of the plurality of storage devices object blocks and a copied object block;

    a block rebuilder responsive to a defect being detected in an uncopied one of said object blocks, to rebuild a corresponding defective object block based on stored ones of the object blocks other than said defective object block; and

    a rebuild block overwriter that overwrites a rebuilt object block on one of the copied object block and an original object block that is an original of the copied object block, wherein said block writer stores in said different storage devices each of said plurality of object blocks and said copied block that is copied from any one of plural data blocks corresponding to said plurality of object blocks other than said redundancy block.

2. (Previously Presented) The storage system according to claim 1, wherein for each of said block groups, said block writer stores in said different storage devices each of said plurality of object blocks included in the block group and said copied block, wherein if one of said storage devices is defective, then for each of said block groups in which an uncopied object block is stored in

3

said defective storage device, said block rebuilder rebuilds said defective object block based on object blocks other than the object block stored in said defective storage device, and wherein for each of said block groups in which an uncopied object block is stored in said defective storage device, said rebuild block overwriter overwrites said rebuilt object block on the one of said copied object block and said original object block.

3. (Previously Presented) The storage system according to claim 1, wherein said block writer stores each of said plurality of object blocks and a copied object block that is copied from said redundancy block in said different storage devices.

4. (Previously Presented) The storage system according to claim 3, further comprising:

a request receiver to receive a write request for a write of write data to a plurality of data blocks that are said plurality of object blocks other than said redundancy block; and

a redundancy block generator to generate a new redundancy block based on said plurality of data blocks to which the write data is to be written, on said write data, and on an original redundancy block, and wherein said block writer writes said write data to said plurality of data blocks to which the write data is to be written and writes said new redundancy block to said original redundancy block and to said copied block.

5. (Canceled).

6. (Currently Amended) The storage system according to claim 1 5, further comprising: a request receiver to receive a write request for a write of write data to a plurality of data blocks that are said plurality of object blocks other than said redundancy block; and wherein if said data block to which the write data is to be written is said original object block, said block writer writes said write data to each of said original object blocks and to said copied block, and if said data block to which the write data is to be written is not said original object block, said block writer writes said write data to said data block to which the write data is to be written.

7. (Currently Amended) A controller for a storage system storing block groups including plural object blocks in plural storage devices, one of said object blocks being a redundancy block

comprising redundancy data used if one of the plural other object blocks is defective, the controller comprising: a block writer that stores in different ones of the plural storage devices object blocks and a copied object block; a block rebuilder responsive to a defect being detected in an uncopied one of said object blocks, to rebuild a corresponding defective object block based on stored ones of the object blocks other than said defective object block; and a rebuild block overwriter that overwrites a rebuilt object block on one of the copied object block and an original object block that is an original of the copied object block, wherein said block writer stores in said different ones of the plural storage devices each of said plurality of object blocks and said copied block that is copied from any one of plural data blocks corresponding to said plurality of object blocks other than said redundancy block.

8. (Currently Amended) A method to control a storage system to store in plural storage devices block groups that comprise plural object blocks, one of said object blocks being a redundancy block comprising redundancy data used if one of the plurality of object blocks is defective, the method comprising:

storing in different storage devices each of the plural object blocks and a copied block that is copied from any of one of the plural object blocks;

responsive to detecting a defect in an uncopied object block, rebuilding the defective object block based on a plurality of object blocks other than said defective object block; and

overwriting the rebuilt object block on the one of the copied block and the original object block of the copied object block, wherein each of said plurality of object blocks and said copied block that is copied from any one of plural data blocks corresponding to said plurality of object blocks other than said redundancy block is stored in different ones of the plural storage devices.

9. (Currently Amended) A computer program stored on a computer readable medium that executes on a computer to control a storage system that stores in a plurality of storage devices block groups comprising plural object blocks, one of said object blocks being a redundancy block comprising redundancy data used if one of the plurality of object blocks is defective, the computer program comprising computer executable program instructions comprised of:

first computer executable program instructions to implement a block writer that stores in different ones of the plurality of storage devices object blocks and a copied object block;

second computer executable program instructions to implement a block rebuilder that is responsive to a defect being detected in an uncopied one of said object blocks, to rebuild a corresponding defective object block based on stored ones of the object blocks other than said defective object block; and

third computer executable program instructions to implement a rebuild block overwriter that overwrites a rebuilt object block on one of the copied object block and an original object block that is an original of the copied object block, wherein said first computer executable program instructions stores in said different storage devices each of said plurality of object blocks and said copied block that is copied from any one of plural data blocks corresponding to said plurality of object blocks other than said redundancy block.

10. (Canceled).

11. (Currently Amended) The computer program stored on a computer readable medium that executes on a computer according to claim 9, wherein for each of said block groups, said first computer executable program instructions stores in said different storage devices each of said plurality of object blocks included in the block group and said copied block, wherein if one of said storage devices is defective, then for each of said block groups in which an uncopied object block is stored in said defective storage device, said second computer executable program instructions rebuilds said defective object block based on object blocks other than the object block stored in said defective storage device, and wherein for each of said block groups in which an uncopied object block is stored in said defective storage device, said third computer executable program instructions overwrites said rebuilt object block on the one of said copied object block and said original object block.

12. (Canceled).

13. (Currently Amended) The computer program stored on a computer readable medium that executes on a computer according to claim 9 12, further comprising: fourth computer executable

6

program instructions to implement a request receiver to receive a write request for a write of write data to a plurality of data blocks corresponding to a plurality of object blocks other than said redundancy block; and fifth computer executable program instructions to implement a redundancy block generator to generate a new redundancy block based on said plurality of data blocks to which the write data is to be written, on said write data, and based on an original redundancy block, and wherein said first computer executable program instructions writes said write data to said plurality of data blocks to which the write data is to be written and writes said new redundancy block to said original redundancy block and to said copied block.

14. (Canceled).

15. (Currently Amended) The computer program stored on a computer readable medium that executes on a computer according to claim 9 14, further comprising: fourth computer executable program instructions to implement a request receiver to receive a write request for a write of write data to a plurality of data blocks corresponding to a plurality of object blocks other than said redundancy block; and wherein if said data block to which the write data is to be written is said original object block, said first computer executable program instructions writes said write data to each of said original object blocks and to said copied block, and if said data block to which the write data is to be written is not said original object block, said first computer executable program instructions writes said write data to said data block to which the write data is to be written.

16. (Currently Amended) A controller for a data storage system, said controller comprising a first interface for coupling to an information processor and a second interface for coupling to a plurality of data storage devices, said controller being responsive to read and write requests received through said first interface for reading data from, and for writing data to, respectively, said plurality of data storage devices through said second interface, said controller further comprising a request receiver and a reply transmitter for coupling to said information processor through said first interface, said controller further comprising a redundancy block generator, a block rebuilder, a data storage device defect detector, a block writer, a block reader and a rebuild block overwriter all of which are coupled to said plurality of data storage devices through said

second interface and that cooperate to store block groups in a dispersed fashion in plural ones of said data storage devices, where each of said block groups is comprised of object blocks comprised of plural data blocks and at least one redundancy block for use by said block rebuilder for error recovery purposes in response to said defect detector detecting a defect, where said block writer operates to store, in different ones of said storage devices, each of the object blocks as a plurality of uncopied blocks and as a copied block that is a copy of one of said object blocks; where said block rebuilder operates, in response to said defect detector detecting a defect in a storage device that stores one of said uncopied blocks, to rebuild the corresponding defective block as a rebuilt block; and said rebuild block overwriter operates to overwrite the rebuilt block into the copied block unless the copied block corresponds to the defective block, where said copied block is a copy of one of said data blocks.

17. (Canceled).

18. (Previously Presented) A controller as in claim 16, where said copied block is a copy of said redundancy block.

19. (Previously Presented) In a data storage system comprised of N storage devices, a method comprising:

storing data in stripes across the N storage devices by storing in an interleaved manner N-2 data blocks, one redundancy block for error recovery purposes, and one copied block; and upon detecting a defective storage device, rebuilding (N-2)/N of the stripes such that, for a given one of the stripes, the stripe is rebuilt if the block that is stored on the defective storage device is other than a copied block or an original block from which the copied block was made.

20. (Previously Presented) A method as in claim 19, where said copied block in each stripe is a copy of one of said data blocks.

21. (Previously Presented) A method as in claim 19, where said copied block in each stripe is a copy of said redundancy block.

22. (Previously Presented) A storage controller for use in a RAID data storage system comprised of N storage devices, said storage controller operating under the control of a program comprised of computer instructions that direct said storage controller to store data in stripes across the N storage devices by storing in an interleaved manner N-2 data blocks, one redundancy block for error recovery purposes, and one copied block, said computer instructions further directing said storage controller, upon detecting an occurrence of a defective storage device, to rebuild (N-2)/N of the stripes such that, for a given one of the stripes, the stripe is rebuilt if the block that is stored on the defective storage device is other than a copied block or an original block from which the copied block was made.

23. (Previously Presented) A storage controller as in claim 22, where said copied block in each stripe is a copy of one of said data blocks.

24. (Previously Presented) A storage controller as in claim 22, where said copied block in each stripe is a copy of said redundancy block.

25. (Previously Presented) A plurality N of data storage devices coupled to a storage controller in a data storage system, said N data storage devices having data stored in stripes across the N data storage devices in an interleaved manner, each stripe comprising N-2 data blocks, one redundancy block for error recovery purposes, and one copied block, and upon an occurrence of a defect in one of said N data storage devices, the N data storage devices storing rebuilt data in (N-2)/N of the stripes such that, for a given one of the stripes, the stripe stores rebuilt data if the block that is stored on the defective one of the N data storage devices is other than a copied block or an original block from which the copied block was made.

26. (Previously Presented) A plurality N of data storage devices as in claim 25, where said copied block in each stripe is a copy of one of said data blocks.

27. (Previously Presented) A plurality N of data storage devices as in claim 25, where said copied block in each stripe is a copy of said redundancy block.

28. (Previously Presented) A storage controller for use in a data storage system comprised of N storage devices, said storage controller comprising a first interface for coupling to an information

processor and a second interface for coupling to the N storage devices, said storage controller further comprising data storage means for storing data in stripes across the N storage devices by storing in an interleaved manner N-2 data blocks, one redundancy block for error recovery purposes, and one copied block, said storage controller further comprising rebuilder means, responsive to detecting an occurrence of a defective one of said N storage devices, for rebuilding (N-2)/N of the stripes such that, for a given one of the stripes, the stripe is rebuilt if the block that is stored on the defective storage device is other than a copied block or an original block from which the copied block was made.

29. (Previously Presented) A storage controller as in claim 28, where said copied block in each stripe is a copy of one of said data blocks.

30. (Previously Presented) A storage controller as in claim 28, where said copied block in each stripe is a copy of said redundancy block.